

# **Air Quality Permitting Statement of Basis**

**January 23, 2007**

**Tier II Operating Permit  
No. T2-060032  
Teton Sales Company, Caldwell  
Facility ID No. 027-00067**

Prepared by:

Shawnee Chen, P.E.  
Senior Air Quality Engineer  
AIR QUALITY DIVISION

**PROPOSED**

## Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE .....	3
1. PURPOSE .....	4
2. FACILITY DESCRIPTION.....	4
3. FACILITY / AREA CLASSIFICATION .....	4
4. APPLICATION SCOPE .....	4
5. PERMIT ANALYSIS .....	5
6. PERMIT CONDITIONS.....	9
7. PUBLIC COMMENT .....	11
8. RECOMMENDATION .....	11
APPENDIX A - AIRS INFORMATION.....	12
APPENDIX B - EMISSION INVENTORY .....	14
APPENDIX C - MODELING ANALYSIS .....	18

## Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
BACT	Best Available Control Technology
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EI	emissions inventory
EPA	Environmental Protection Agency
gal	gallons
gal/hr	gallons per hour
gal/yr	gallons per year
gr	grain (1 lb = 7,000 grains)
HAP	Hazardous Air Pollutant
hr/yr	hours per year
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MACT	Maximum Available Control Technology
NAAQS	national ambient air quality standard
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operations and maintenance
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
Rules	Rules for the Control of Air Pollution in Idaho
SB	statement of basis
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO <sub>2</sub>	sulfur dioxide
TAP	toxic air pollutant
Teton Sales	Teton Sales Company
Tier II	Tier II operating permit
T/yr	Tons per year
µg/m <sup>3</sup>	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## 1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.400 through 410 Rules for the Control of Air Pollution in Idaho (Rules) for issuing Tier II operating permits (Tier II).

## 2. FACILITY DESCRIPTION

Teton Sales Company (Teton Sales) is a wood products coating company. Prior to sale, unpainted doors and moldings are coated with water and solvent-based coatings respectively. The process includes the spray booth, coaters, printers, and drying ovens.

## 3. FACILITY / AREA CLASSIFICATION

Teton Sales is classified as a major facility in accordance with IDAPA 58.01.01.008.10 because the facility's VOC potential to emit (PTE) is greater than 100 tons per year, and the facility's total HAP PTE is greater than 25 tons per year. Teton Sales is not a designated facility, as defined by IDAPA 58.01.01.006.26. The facility takes the throughput limits in the permit to limit its VOC emissions to be less than 250 tons per year. As a result, the facility will not be a PSD major facility as defined in IDAPA 58.01.01.205. The AIRS classification is "A." The Standard Industrial Classification (SIC) defining the facility is 2431.

The facility is located within AQCR 64 and UTM zone 11. The facility is located in Canyon County which is designated as unclassifiable for all regulated criteria pollutants (PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, lead, and ozone).

The AIRS information provided in Appendix A defines the classification for each regulated air pollutant at Teton Sales. This required information is entered into the EPA AIRs database.

## 4. APPLICATION SCOPE

The application is to fulfill the requirements under Section 7, Compliance Schedule, in Tier I operating permit issued November 6, 2002, and to include the requirements in 40 CFR 63 Subpart QQQQ. The application includes the following subjects:

- Establishing coating materials (coating and thinner) throughput limits (annual, daily, and hourly based on 24-hour average).
- Modifying the door spray coating line to utilize waterborne paint.
- Having removed the molding coating equipment, Fan Coater No.5 and Roll Coater No.2, in the building at 518 Kit Avenue.
- Demonstrating compliance with 40 CFR 63 Subpart QQQQ.
- Addressing grandfathered PSD issues and demonstrating that the throughput limits and utilizing waterborne paint at door line spray booth are Best Available Control Technology (BACT) equivalent.

### 4.1 Application Chronology

June 16, 2006	DEQ received the application
July 14, 2006	DEQ declared the application complete
November 11, 2006	DEQ issued the draft permit for facility review

## 5. PERMIT ANALYSIS

### 5.1 *Equipment Listing*

#### Building at 518 Kit Avenue

- Spray booth

The airless spray guns used at door spray booth have a total maximum throughput capacity of 75 gallons per hour. The spray booth is a wide, ventilated booth that draws air past the spraying activity through a 99% efficient polyester filter to control the particulates. The air is discharged outside the building through a roof vent at a rate of 25,000 cubic feet per minute. The spray booth utilizes water-based paint.

- A heated drying oven, which is a paneled, ventilated enclosure with four natural gas-fired heaters (560,000 Btu per hour total heat input). The exhaust blower of the oven is operating at 5,000 acfm.
- Three 100,000 Btu per hour natural gas-fired space heaters used to heat the building at 518 Kit Avenue

#### Building at 604 Kit Avenue

- Molding coating equipment for the Paint and Print Process consist of:

- Roll Coater No.1
- Fan Coater No.1
- Fan Coater No.3
- Printer No.1 and Printer No.2
- Two Buffers

- Molding coating equipment for the White Molding Process consist of:

- Roll Coater No.1
- Fan Coater No.2
- Fan Coater No.4

Only one of the two molding coating processes can run at a time due to the equipment configuration in 604 Kit Avenue building. Fan coaters No.1 and No.4 are in parallel along with fan coaters No.2 and No.3, and therefore, are unable to operate simultaneously.

- A heated drying oven, which is a paneled, ventilated enclosure with four natural gas-fired heaters (560,000 Btu per hour total heat input). The exhaust blower of the oven is operating at 5,000 acfm.
- Two 100,000 Btu per hour natural gas-fired space heaters used to heat the building at 604 Kit Avenue
- A paint mix area.

## Building at 612 Kit Avenue

- Two 100,000 Btu/hr natural gas-fired space heaters used to heat the building at 604 Kit Avenue
- A small Dato machine to square the ends of the unpainted doors. The emissions are negligible.

## 5.2 Emissions Inventory

A detailed emissions inventory (EI), including TAP and HAP emissions, was provided in the Tier II application. The EI has been reviewed by DEQ and appears to accurately reflect emissions from the facility. Table 5.1 provides a summary of the EI for criteria air pollutants. The EI for HAP and TAP is included in the Appendix B of the statement of basis (SB).

**Table 5.1 TIER II EMISSIONS INVENTORY SUMMARY**

Source	PM		PM <sub>10</sub>		VOC		SO <sub>2</sub>		NO <sub>x</sub>		CO		Lead	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Spray Booth <sup>a</sup>	0.58	1.28	0.58	1.28	3.68	8.10								
Roll Coater No.1 <sup>b</sup>					3.51	7.71								
Fan Coater No.1														
Fan Coater No.2 <sup>c</sup>					20.70	45.53								
Fan Coater No.3														
Fan Coater No.4 <sup>d</sup>					33.63	73.99								
Printer No.1 <sup>e</sup>					4.883	5.37								
Printer No.2 <sup>e</sup>					4.883	5.37								
Acetone Storage Tank														
T-6 Storage Tank <sup>f</sup>					0.02	0.09								
Fuel Burning Sources <sup>g</sup>	0.014	0.059	0.014	0.059	0.010	0.043	0.001	0.005	0.18	0.78	0.15	0.65	8.9x 10 <sup>-7</sup>	3.9x 10 <sup>-6</sup>
Fugitives		0.01		0.01										
Total	0.594	1.35	0.594	1.35	71.32	135.5	0.001	0.005	0.18	0.78	0.15	0.65	8.9x 10 <sup>-7</sup>	3.9x 10 <sup>-6</sup>

<sup>a</sup> based on 9 gal/hr, 24-hour average and 39,600 gal/yr for water reducible lacquer and 9 gal/hr, 24-hour average and 39,600 gal/yr for millwork primer.

<sup>b</sup> based on 1.55 gal/hr (0.7 gal/hr of high solids burnishing sealer and 0.85 gal/hr of Acetone) and 6,820 gal/yr of high solids burnishing sealer and Acetone.

<sup>c</sup> based on 5.2 gal/hr (3.2 gal/hr of white basecoat and 2.0 gal/hr of T-6 thinner) and 22,880 gal/yr of solvent based paint basecoat and T-6 thinner. Fan coaters No.2 and No.3 are in parallel and therefore are unable to operate simultaneously. The worse case emissions of fan coater No.2 were used to calculate the PTE.

<sup>d</sup> based on 6.4 gal/hr (4.4 gal/hr of white basecoat and 2.0 gal/hr of T-6 thinner) and 28,160 gal/yr of solvent based paint basecoat and T-6 thinner. Fan coaters No.1 and No.4 are in parallel and therefore are unable to operate simultaneously. The worst case emissions of fan coater No.4 were used to calculate the PTE.

<sup>e</sup> based on 2.514 gal/hr (0.8 gal/hr of colored paste ink, 1.7 gal/hr of T-6 thinner, and 0.014 gal/hr of glycol ether) and 5,531 gal/yr of colored paste ink, T-6 thinner, and glycol ether.

<sup>f</sup> EPA Tank 4.0 was used to calculate emissions. The net throughput was 25,080 gal/yr

<sup>g</sup> EFs in Table 1.4-2 of AP-42 (rev. 98), combustion sources rated capacity, natural gas heat value of 1,020 Btu/scf, and 8,760 hr/yr operating hours were used in the emissions calculation.

## 5.3 Modeling

The facility has demonstrated compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The detailed modeling analysis and the facility's modeling input data are included in Appendix C. A summary of the modeling analysis is presented in Tables 5.2 and 5.3.

**Table 5.2 FULL IMPACT ANALYSIS RESULTS<sup>a</sup>**

Pollutant	Averaging Period	Modeled Result <sup>a</sup> (µg/m <sup>3</sup> ) <sup>b</sup>	Background Concentration (µg/m <sup>3</sup> )	Total Concentration (µg/m <sup>3</sup> )	NAAQS	Percent of NAAQS
<b>PM<sub>10</sub></b>	Annual	3.38	26	29.38	50	58.8%
	24 hour	16.91	73	89.92	150	59.9%
<b>NO<sub>x</sub></b>	Annual	38.28	17	55.28	100	55.3%
<b>CO</b>	1-hour	397.38	2,600	2,997	40,000	7.5%
	8-hour	178.17	2,300	2,578	10,000	25.8%
<b>SO<sub>2</sub></b>	Annual	0.23	8	8.23	80	10.3%
	24 hr	1.14	26	27.14	365	7.4%
	3 hr	2.56	34	36.56	1300	2.8%

<sup>a</sup> Values are modeling results obtained by JBR, converted from 1-hour Screen3 concentration (µg/m<sup>3</sup>)/(lb/hr),

<sup>b</sup> Micrograms per cubic meter

**Table 5.3 FULL IMPACT ANALYSIS RESULTS FOR TAPS<sup>a</sup>**

Pollutant	Averaging Period	Modeled Result <sup>a</sup> (µg/m <sup>3</sup> ) <sup>b</sup>	Total Concentration (µg/m <sup>3</sup> )	IDAPA 58.01.01.586	Percent of AAC
<b>Toluene</b>	24-hour	13,157	13,157	18,750	70.2%
<b>Calcium Carbonate</b>	24-hour	121.16	121.56	500	24.3%
<b>Quartz</b>	24-hour	0.93	0.93	5	18.6%

<sup>a</sup> Values are modeling results obtained by JBR, converted from 1-hour Screen3 concentration (µg/m<sup>3</sup>)/(lb/hr),

<sup>b</sup> Micrograms per cubic meter

## 5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this Tier II.

IDAPA 58.01.01.400.....Procedures and Requirements for Tier II Operating Permits

The Tier II is to fulfill the requirements under Section 7, Compliance Schedule, in Tier I operating permit issued November 6, 2002 and to include the requirements in 40 CFR 63 Subpart QQQQ - National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products.

IDAPA 58.01.01 675 .....*Fuel Burning Equipment*

This regulation establishes particulate matter emission standards (grain loading standards) for fuel burning equipment.

The fuel burning equipment at Teton Sales meets this standard. The detailed calculation can be found in the application.

IDAPA 58.01.01.701.....Particulate Matter - Process Weight Limitations

The spray booth is subject to this standard. With the air pollution control device (the polyester filter), the spray booth meets this standard. The detailed calculation can be found in the application.

IDAPA 58.01.01.200.....Prevention of Significant Deterioration (PSD)

Teton Sales is grandfathered as a PSD major source. Teton Sales VOC PTE was greater than 250 Tons per year without throughput limits. PSD was triggered for VOCs due to the installation of the following processes per the application:

Building at 518 Kit Avenue

- Fan Coater No.5
- Roll Coater No.2
- Door line

Building at 604 Kit Avenue

- Fan Coater No.1
- Fan Coater No.2
- Fan Coater No.3
- Roll Coater No.1
- Printer No.1
- Printer No.2

In the application, Teton Sales conducted BACT analysis and took VOC emissions limit as BACT-equivalent (see Permit Condition 2.14). With the VOC emissions limits in the Tier II, Teton Sales is now a PSD synthetic minor source.

40 CFR 63 Subpart QQQQ .....National Emission Standards for Hazardous Air Pollutants:  
Surface Coating of Wood Building Products (MACT)

Coating operations and associated operations specified in Permit Condition 2.15 are subject to this regulation.

## 5.5 Fee Review

Teton Sales' permitted emissions are more than 100 tons per year. In accordance with IDAPA 58.01.01.407.01, a Tier II processing fee of \$10,000 is required for this permit action. Teton Sales is a major source and is subject to Tier I fees. Teton Sales is current on the Tier I fees.

**Table 5.4 TIER II PROCESSING  
FEE SUMMARY**

<b>Emissions Inventory</b>	
<b>Pollutant</b>	<b>Permitted Emissions</b>
NO <sub>x</sub>	0.78
SO <sub>2</sub>	0.005
CO	0.65
PM <sub>10</sub>	1.35
VOC	135.5
TAPs/HAPs <sup>a</sup>	75.6
Total:	138.3
Fee Due	<b>\$ 10,000.00</b>

<sup>a</sup> TAPs/HAPs emissions are not included in the total because they have already been counted once either as PM<sub>10</sub> or VOC.

## **5.6 Regional Review of Draft Permit**

The draft permit was made available for Boise Regional Office review on October 30, 2006. The comments were received on November 6, 2006. The comments related to this permit action were addressed in the permit.

## **5.7 Facility Review of Draft Permit**

The draft permit was provided for facility review on November 11, 2006. The comments were received on December 6, 2006. The comments were addressed in the permit.

## **6. PERMIT CONDITIONS**

### Tier II Operating Permit Scope

- 6.1 Permit Conditions 1.1 and 1.2 state the purpose of this permit action.
- 6.2 Permit Condition 1.3 lists all the regulated sources in this permit.

### Facility-Wide Conditions

- 6.3 Permit Condition 2.1 requires the facility to reasonably control fugitive emissions. The permit condition contains various methods that are to be used, where practical to prevent particulate matter from becoming airborne. The permittee will show compliance with this requirement by fulfilling the requirements in Permit Conditions 2.2 to 2.4. There are no significant fugitive sources in Teton Sales. Therefore, a quarterly facility-wide inspection is adequate.
- 6.4 Permit Conditions 2.5 and 2.6 include the requirements for odors.
- 6.5 Permit Condition 2.7 limits the opacity of all visible emissions from any stack, vent, or other functionally equivalent opening to no more than 20% for a period or periods exceeding three minutes in any 60 minutes period.

Permit Conditions 3.5, 3.7 and 3.8 require the permittee to develop an operations and maintenance (O&M) manual for the door-coating spray booth particulate matter filtration system, to operate the filtration system in accordance with the O&M manual, to monitor the pressure drop of the filtration system, and to keep records on site for five years.

In addition, Permit Condition 2.8 requires monthly facility-wide inspections.

- 6.6 Permit Condition 2.12 is a grain loading standard for fuel-burning equipment. Teton Sales' heaters are subject to this limit. With Permit Condition 2.13 that limits the fuel of the heaters being natural gas exclusively, Teton Sales' heaters are in compliance with the limit. No additional monitoring and recordkeeping are needed.
- 6.7 Permit Condition 2.14 establishes the facility-wide VOC emissions limit which keeps Teton Sales as a PSD synthetic minor source.

To ensure compliance with this limit, Permit Conditions 3.4, 3.6, 3.8, 4.5, 4.6, and 4.7 establish the throughput limits, and require the monitoring and recordkeeping of this information.

40 CFR 63 Subpart QQQQ - National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products

- 6.8 Permit Conditions 2.15 to 2.31 are the requirements taken from 40 CFR 63 Subpart QQQQ (MACT) that apply to Teton Sales based on Teton Sales' processes, the operations, and the choice on how to demonstrate compliance with MACT emissions limits – that is 40 CFR 63.4691(b) *Emission rate without add-on controls option*. Except for Permit Conditions 2.16 and 2.17, the text in the permit conditions are copied/pasted from 40 CFR 63 Subpart QQQQ.
- 6.9 Permit Condition 2.15 specifies what parts of the plant are subject to 40 CFR 63 Subpart QQQQ.
- 6.10 Permit Condition 2.16 specifies the compliance date based on the following factors:
- Processes at Teton Sales are existing affected sources.
  - Teton Sales' choice of how to meet the emissions limits, which is 40 CFR 63.4691(b) *Emission rate without add-on controls option*.
- 6.11 Permit Condition 2.17 specifies the emissions limit as 1.93 lb HAP/gal solids because the processes in Teton Sales are existing affected sources and Teton Sales applies coating to products in the following subcategory: doors, windows, and miscellaneous.
- 6.12 Permit Condition 2.18 specifies the option that Teton Sales has chosen to meet the emissions limits. That is 40 CFR 63.4691(b) *Emission rate without add-on controls option*.

Door Coating Operation at 518 Kit Avenue

- 6.13 Permit Conditions 3.1 and 3.2 describe the door coating operation and its control device.
- 6.14 Permit Condition 3.3 establishes the emissions limits for PM<sub>10</sub> to ensure compliance with the 24-hour PM<sub>10</sub> NAAQS and for two TAPs to ensure compliance with the respective AAC. The daily impact can only be modeled based on a calendar day average due to the limitation of the model. Therefore, the daily emissions limits are based on 24-hour calendar average rather than 24-hour rolling average. Permit Condition 3.3.2 establishes the annual emissions limit to ensure the compliance with the annual PM<sub>10</sub> NAAQS. The averaging time for this limit is calendar year because the PM<sub>10</sub> NAAQS is calendar year average.

To ensure compliance with the limits, 1) Permit Conditions 3.5 and 3.7 require the permittee to develop an O&M manual for the door-coating spray booth particulate matter filtration system, to operate the filtration system in accordance with the O&M manual, and to monitor the pressure drop of the filtration system; 2) Permit Conditions 3.4 and 3.6 establish the throughput limits and require the permittee to monitor the throughput; and 3) Permit Condition 3.8 requires the permittee to keep records on site for five years.

The controlled TAPs emissions for Calcium Carbonate and Quartz are included in the permit in accordance with IDAPA 58.01.01.210.08.

Molding Coating Processes At 604 Kit Avenue

- 6.15 Permit Conditions 4.1 and 4.2 describe the Paint and Print Process and White Molding Process.

- 6.16 Permit Condition 4.3 establishes the Toluene emissions limit to ensure that Teton Sales complies with Toluene AAC. The impact can only be modeled based on a calendar day average due to the limitation of the model. Therefore, the daily emissions limit is based on 24-hour calendar average rather than 24-hour rolling average.

To ensure compliance with the limits, 1) Permit Conditions 4.5 and 4.6 establish the throughput limits and require the permittee to monitor the throughput; 2) Permit Conditions 4.7 require the permittee to keep records on site for five years.

The controlled TAP emissions for Toluene (through limiting the throughput of coating materials) are included in the permit in accordance with IDAPA 58.01.01.210.08.

- 6.17 Permit Condition 4.4 requires, within 60 days of permit issuance, the permittee to have extended the stack height, from the ground, to 23 feet for each of the three coating venting stacks, because the three coating process wall vent stacks were modeled at 23 feet to ensure the compliance of the ambient air quality standard(s) and/or TAP increment standard(s).

#### Summary of Emission Rate Limits

- 6.18 Section 5 of the permit is a summary table of emissions limits established in the permit.

#### Tier II Permit To Operate General Provisions

- 6.19 Section 6 of the permit contains Tier II General Provisions.

## **7. PUBLIC COMMENT**

A public comment period on the proposed Tier II operating permit and application materials will be provided in accordance with IDAPA 58.01.01.404.01.c.

## **8. RECOMMENDATION**

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue a proposed Tier II to Teton Sales.

SYC/bf              Permit No. P-060032

## **Appendix A**

### ***AIRS Information***

**T2-060032**

# AIRS/AFS<sup>a</sup> FACILITY-WIDE CLASSIFICATION<sup>b</sup> DATA ENTRY FORM

Facility Name: Teton Sales Company

Facility Location: Caldwell

AIRS Number: 027-00067

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO <sub>2</sub>	B						B	U
NO <sub>x</sub>	B						B	U
CO	B						B	U
PM <sub>10</sub>	SM						SM	U
PT (Particulate)	B							
VOC	A	SM					A	U
THAP (Total HAPs)	A				A		A	U
			APPLICABLE SUBPART					
					QQQQ			

<sup>a</sup> Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

<sup>b</sup> AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

## **Appendix B**

### ***Emissions Inventory***

**T2-060032**

## 7.2 HAZARDOUS AIR POLLUTANTS (HAPs)

Table 7.2-1 below summarizes HAP emissions from Teton Sales combustion and coatings operations. As shown in the table, Teton Sales is a major source for HAPs.

**Table 7.2-1 HAP Emissions from Combustion Operations**

Pollutant	Emissions From Combustion (Tons/yr)	
Arsenic	1.56E-06	
Benzene	1.64E-05	
Beryllium	9.37E-08	
Cadmium	8.58E-06	
Ethylbenzene	0.00E+00	
Formaldehyde	5.87E-04	
Chromium	0.00E+00	
Lead	3.91E-06	
Mercury	2.03E-06	
1,1,1 – Trichlorethane (Methyl Chloroform)	0.00E+00	
Naphthalene	4.77E-06	
Nickel	1.64E-05	
Xylene	0.00E+00	
Selenium	1.87E-07	
Toluene	2.66E-05	
POM	6.85E-07	
Dichlorobenzene	9.31E-06	
Phosphorous	0.00E+00	
Hexane	1.40E-02	
TOTAL		1.47E-02
Note: Emission Factors for lead, POM, dichlorobenzene and hexane are as follows (i.e., for those HAPs not included with TAP calculations):		
Lead	5.00E-04	lb/MMscf
POM	8.82E-05	lb/MMscf
Dichlorobenzene	1.20E-03	lb/MMscf

**Table 7.2-2 HAP Emissions (Continued)**

Coatings & Thinners - HAP Emission Inventory (ton/yr)													T-6 Storage Tank	Total Simult. (ton/yr)	Total not Simult. (ton/yr)
Pollutant	Spray Booth	Fan Coater # 1	Fan Coater # 2	Fan Coater # 3	Fan Coater # 4	Roll Coater # 1	Printer # 1	Printer # 2							
Glycol Ethers	0	0	0	0	0	0	0.23	0.23	0	0.46		0.46	0.46		
Toluene	0	8.79	29.41	0.09	27.39	4.35	0.04	0.04	0.005	70.11		70.11	61.16		
Methyl Isobutyl Ketone	0	0	2.74	0.00		0.001	1.10	1.10	0.0002			7.69	5.49		
Xylene	0	0.95	1.54	0.07	2.43		0.05	0.05	0	5.07		5.07	3.96		
Methanol	0		1.83	0.00	1.84	0.001	0.71	0.71	0.0007	5.08		5.08	3.66		
Ethyl benzene	0	0.19	0.31	0.02	0.40	0	0.0010	0.0010	0	0.93		0.93	0.72		
Cumene	0	0.001	0	0	0	0	0	0	0	0.00		0.00	0.00		
2-Butoxyethanol	0	0	0	0.02	0	0	0.019	0.019	0	0.05		0.05	0.05		
Phenoxyethanol	0	0	0	0.02	0	0	0.000	0.000	0	0.02		0.02	0.02		
Manganese	0	0	0	0	0	0	0.004	0.004	0	0.01		0.01	0.01		
Chromium III	0	0	0	0	0	0	0.004	0.004	0	0.01		0.01	0.01		
Total	0	9.93	35.83	0.21	34.81	4.35	2.15	2.15	0.006						

TOTAL HAP PTE if both processes could run simultaneously = 89.43  
 TOTAL HAP PTE when processes do not run simultaneously = 75.54

TOTAL HAP Emissions facility wide (combustion, coatings & thinners) = 75.57

**TAPs Inventory (lb/hr)**

Pollutant	Spray Booth	Fan Coater # 1	Fan Coater # 2	Fan Coater # 3	Fan Coater # 4	Roll Coater # 1	Printer # 1	Printer # 2	Acetone Storage Tank	T-6 Storage Tank	Total (lb/hr)	EL (lb/hr)
Toluene	0	3.99	13.37	0.04	12.45	1.98	0.038	0.038	0	0.001	31.90	25
Methyl ethyl ketone	0	3.28	2.78	0	7.92	0.89	0	0	0	0	14.87	39.3
Methyl Isobutyl Ketone	0	0.00	1.24	0	1.25	0.000	0.996	0.996	0	0.0002	4.49	13.7
Xylene	0	0.43	0.70	0.03	1.10	0	0.041	0.041	0	0	2.34	29
Methanol	0	0.00	0.83	0	0.83	0.001	0.646	0.646	0	0.0007	2.96	17.3
Acetone	0	33.84	4.84	2.63	4.87	5.60	3.60	3.60	0.015	0.009	59.00	119
Isopropanol	0	0.99	1.60	0.23	0	0.28	0.188	0.188	0	0	3.48	65.3
Ethyl benzene	0	0.09	0.14	0.01	0.18	0	0.0009	0.0009	0	0	0.42	21.75
Cumene	0	0.001	0.01	0	0	0	0	0	0	0	0.008	16.3
Ethyl acetate	0	0	0	0	0	0	0.059	0.059	0	0	0.12	93.3
2-Butoxyethanol	0	0	0	0.01	0	0	0.0172	0.0172	0	0	0.04	8
Isobutyl acetate	0	0	0	0	0	0	0.084	0.084	0	0	0.17	46.7
Butanol	0	0	0	0	0	0	0.084	0.084	0	0	0.17	47.3
Butyl acetate	0	0	0	0	0	0.10	1.698	1.698	0	0	3.50	10.0
Quartz	0.23	0	0	0	0	0	0	0	0	0	0.23	0.0067
Calcium Carbonate	29.72	0	0	0	0	0	0	0	0	0	29.72	0.667
Chromium III	0	0	0	0	0	0	0.003	0.003	0	0	0.007	0.033
Manganese	0	0	0	0	0	0	0.003	0.003	0	0	0.007	0.333
1,2,4-Trimethylbenzene	0	0	0.01	0	0	0	0	0	0	0	0.015	8.2
2-Pentanone	0	0	0	0.02	0	0	0	0	0	0	0.023	46.7

## **Appendix C**

### ***Modeling Review***

**T2-060032**

### 3.4 Results

#### 3.4.1 Significant Impact Analysis

This section describes dispersion modeling results for the criteria pollutants and TAPs. Table 7 summarizes the results from JBR's analysis.

Pollutant	Averaging Period	Modeled Result <sup>a</sup> (µg/m <sup>3</sup> ) <sup>b</sup>	Background Concentration (µg/m <sup>3</sup> )	Total Concentration (µg/m <sup>3</sup> )	NAAQS/IDAPA 58.01.01.586	Meets NAAQS/IDAPA 58.01.01.586
PM10	Annual	3.38	26	29.38	50	Yes
	24 hour	16.91	73	89.92	15	Yes
NO <sub>x</sub>	Annual	38.28	17	55.28	100	Yes
CO	1-hour	397.38	2,600	2,997	40,000	Yes
	8-hour	178.17	2,300	2,578	10,000	Yes
SO <sub>2</sub> <sup>c</sup>	Annual <sup>d</sup>	0.23	8	8.23	80	Yes
	24 hr <sup>e</sup>	1.14	26	27.14	365	Yes
	3 hr <sup>e</sup>	2.56	34	36.56	1300	Yes
Toluene	24-hour	13,157	NA	13,157	18,750	Yes
Calcium Carbonate	24-hour	121.16	NA	121.56	500	Yes
Quartz	24-hour	0.93	NA	0.93	5.0	Yes

<sup>a</sup> Values are modeling results obtained by JBR, converted from 1-hour Screen3 concentration (µg/m<sup>3</sup>)/(lb/hr).

<sup>b</sup> Micrograms per cubic meter

### 4.0 CONCLUSIONS

Dispersion modeling of the proposed modification, conducted by the applicant, demonstrated to the satisfaction of DEQ that the proposed modification will not cause or significantly contribute to a violation of any ambient air quality standard.

## **MEMORANDUM**

### **MEMORANDUM**

**DATE:** July 19, 2006

**TO:** Shawnee Chen, Permit Engineer, Air Program

**FROM:** Yayi Dong, Atmospheric Scientist, Technical Services

**PROJECT NUMBER:** T2-060032; facility ID No: 027-00067; PID: SSBG, T2S

**SUBJECT:** Modeling Review for the Teton Sales Company (Caldwell Idaho), Facility-wide TEER II Permit Application. This application is for establishing a new coating and thinner throughput limits.

#### **1.0 Summary**

Teton Sales Company, located in Caldwell, Idaho, submitted a Facility-wide Tier II application to establish new coating and thinning throughput limits. Teton Sales Company is a wood products coating company. Unpainted doors and moldings are coated with water and solvent-based coatings respectively prior to sale. The process includes spray booths, coaters, printers and drying ovens.

Air quality analyses involving atmospheric dispersion modeling of emissions associated with the modification were submitted in support of a permit application to demonstrate that the modification would not cause or significantly contribute to a violation of any ambient air quality standard (NAAQS) for criteria pollutants in 40 CFR 51 and Idaho Ambient Air Quality Standards in IDAPA 58.01.01.575. Toxic air pollutants were also evaluated against threshold emissions levels (ELs), and ambient contributions for those pollutants exceeding their respective ELs were modeled and compared to the Acceptable Ambient Concentrations (AAC) or Acceptable Ambient Concentrations for Carcinogens (AACC) given in ADAPA 58.01.01.585 and 586. JBR environmental consultants, Inc., Teton Sales Company's consultant, conducted the ambient air quality analyses.

A technical review of the submitted air quality analyses was conducted by DEQ. The submitted modeling analyses in combination with DEQ's staff analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed that predicted pollutant concentrations from emissions associated with the proposed facility, when appropriately combined with background concentrations, were below applicable air quality standards mentioned above at all receptor locations. Table 1 presents key assumptions and results that should be considered in the development of the permit.

<b>Table 1. KEY ASSUMPTIONS/RESULTS FROM MODELING ANALYSES</b>	
<b>Assumption/Result</b>	<b>Explanation/Consideration</b>
The site is determined to be in rural area	Auer's (1978) land-use classification method was applied. More than 50 percent of the land use within three kilometers around the proposed facility appears to be rural.
Model Screen3 was selected	Model Screen3 was selected by Teton Sales and JRC Environmental Consultants Inc. Refined models such as ISC3 or Aeromod would be better choices to evaluate the effects of building downwash due to the complexity of the sources and buildings settings. However, JRC applied a conservative approach and the predicted impacts were relatively insignificant, DEQ accepted this model selection.
Flat terrain was assumed.	No significant elevation changes within the areas of maximum concentrations predicted in the preliminary modeling.
All criteria pollutants were modeled. Facility-wide NAAQS compliance has been demonstrated.	Predicted criteria pollutants concentrations at all receptor locations, when appropriately combined with background concentrations, were below stated air quality standards.
TAPs above ELs were modeled and met the ACC or AACC.	Toluene, Calcium Carbonate and Quartz were over the EL and modeled.
Storage and fugitive emissions were not included in the modeling.	They are not required by Idaho modeling guidance.

## **2.0 Background Information**

### **2.1 Applicable Air Quality Impact Limits and Modeling Requirements**

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

#### **2.1.1 Area Classification**

The Teton Sales Company is located in Caldwell in Canyon County, Idaho, designated as attainment or unclassifiable area for all criteria pollutants. There are no Class I areas within 10 kilometers of the facility.

#### **2.1.2 Significant and Full Impact Analyses**

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the proposed modification exceed the "significant contribution" levels (SCLs) of IDAPA 58.01.01.006.90, then a full impact analysis is necessary to demonstrate compliance with IDAPA 58.01.01.203.02. A full impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location. The resulting maximum pollutant concentrations in ambient air are then compared to the National Ambient Air Quality Standards (NAAQS).

Toxic air pollutants have to be evaluated against threshold emissions levels (ELs), and ambient contributions for those pollutants exceeding their respective ELs need to be modeled and

compared to the Acceptable Ambient Concentrations (AAC) or Acceptable Ambient Concentrations for Carcinogens (AACC) given in ADAPA 58.01.01.585 and 586.

### 2.1.3 Applicable Air Quality Impact Limits

The applicable regulatory limits are presented in Table 2. Only SO<sub>2</sub> is modeled in this project.

The applicable regulatory limits are presented in Table 2.

<b>Table 2. APPLICABLE REGULATORY LIMITS</b>				
<b>POLLUTANT</b>	<b>Averaging Period</b>	<b>Significant Contribution Levels (µg/m<sup>3</sup>)<sup>a, b</sup></b>	<b>Regulatory Limit (µg/m<sup>3</sup>)<sup>c</sup></b>	<b>Modeled Value Used<sup>d</sup></b>
PM <sub>10</sub> <sup>e</sup>	Annual	1	50 <sup>f</sup>	Maximum 1 <sup>st</sup> highest
	24-hour	5	150 <sup>g</sup>	Highest 2 <sup>nd</sup> highest
CO	8-hour	500	10,000 <sup>h</sup>	Highest 2 <sup>nd</sup> highest
	1-hour	2000	40,000 <sup>h</sup>	Highest 2 <sup>nd</sup> highest
SO <sub>2</sub>	Annual	1	80 <sup>h</sup>	Maximum 1 <sup>st</sup> highest
	24-hour	5	365 <sup>h</sup>	Highest 2 <sup>nd</sup> highest
	3-hour	25	1,300 <sup>h</sup>	Highest 2 <sup>nd</sup> highest
NO <sub>x</sub>	Annual	1	100 <sup>f</sup>	Maximum 1 <sup>st</sup> highest
Calcium Carbonate	24-hr	N/A	500	Maximum 1 <sup>st</sup> highest
Toluene	24-hr	N/A	18,750	Maximum 1 <sup>st</sup> highest
Quartz	24-hr	N/A	5.0	Maximum 1 <sup>st</sup> highest

<sup>a</sup> IDAPA 58.01.01.006.93

<sup>b</sup> Micrograms per cubic meter

<sup>c</sup> IDAPA 58.01.01.577 for criteria pollutants, IDAPA 58.01.01.585 for non-carcinogenic toxic air pollutants IDAPA 58.01.01.586 for carcinogenic toxic air pollutants.

<sup>d</sup> The maximum 1<sup>st</sup> highest modeled value is always used for significant impact analysis and for all toxic air pollutants. Concentration at any modeled receptor.

<sup>e</sup> Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers

<sup>f</sup> Never expected to be exceeded in any calendar year.

<sup>g</sup> Never expected to be exceeded more than once in any calendar year.

<sup>h</sup> Not to be exceeded more than once per year.

## 2.2 Background Concentrations

Ambient background concentrations were revised for all areas of Idaho by DEQ in March 2003<sup>1</sup>. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. The criteria pollutants background concentrations used in these analyses are listed in Table 3.

1 Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling*. Memorandum to Mary Anderson, March 14, 2003.

Table 3. BACKGROUND CONCENTRATIONS		
Pollutant	Averaging Period	Background Concentration ( $\mu\text{g}/\text{m}^3$ ) <sup>a</sup>
PM <sub>10</sub> <sup>b</sup>	24-hour	73
	Annual	26
NO <sub>2</sub> <sup>c</sup>	Annual	17
CO <sup>d</sup>	1-hour	2,600
	8-hour	2,300
SO <sub>2</sub> <sup>e</sup>	3-hour	34
	24-hour	26
	Annual	8

<sup>a</sup>. Micrograms per cubic meter

<sup>b</sup>. Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers

<sup>c</sup>. Nitrogen dioxide

<sup>d</sup>. Carbon dioxide

<sup>e</sup>. Sulfur dioxide

### 3.0 MODELING IMPACT ASSESSMENT

#### 3.1 Modeling Methodology

Table 4 provides a summary of the modeling setups used in JBR's modeling analyses.

Table 4. MODELING PARAMETERS		
Parameter	Description/Values	Documentation/Additional Description
Model	ISC Prime	
Meteorological data	All Stab & WS	Standard options.
Model options	Regulatory Default	Standard options.
Land use	Rural	Population density in area is not sufficient for urban classification and there is a large fraction of unimproved land within three kilometers
Terrain	Simple and complex	
Building downwash	Modeled	
Receptor grid	Minimum 1.0 m and maximum 1000m.	Maximum concentration areas are covered.
Facility location (UTM) <sup>a</sup>	Easting E 523.878 Zone #12	Kilometers
	Northing N 4834.928 Zone #12	Kilometers

<sup>a</sup>. Universal Transverse Mercator

##### 3.1.1 Modeling Approach and Review

The criteria pollutants emissions from the facility wide sources combined were modeled to evaluate compliance with Permit to Construct (PTC) regulations. Other emissions (TAPs) were also modeled.

DEQ has reviewed the input data, output data and re-run the screen model for some major sources, but did not conduct an independent assessment of the analyses.

### **3.1.2 Modeling protocol**

A modeling protocol was not submitted to DEQ with the application.

### **3.1.3 Model Selection**

Screen3 was selected by Teton Sales and JRB Environmental Consultants, Inc. According to the Idaho modeling guidance, Screen model can be used in the situation where only few sources and buildings are involved. Because there are 23 point sources and a few buildings within the facility, the refined models such as ISC3 and AEROMOD would be better choices for this project. However, JRB Environmental Consultants, Inc. applied a conservative approach, and estimated impacts are significantly below the standards, DEQ has evaluated the results and considered the conclusions were valid.

### **3.1.4 Land Use Classification**

Well over 50% of the landuse of the surrounding area is rural. Therefore, rural dispersion coefficients were used in the modeling analyses.

### **3.1.5 Meteorological Data**

No specific meteorological data are required for the Screen model.

### **3.1.6 Simple and Complex Terrain**

The elevation changes within the facility is relatively small, no terrain elevation is higher than the stacks. JRB used option of "Flat" terrain.

### **3.1.7 Facility Layout and Ambient Air Boundary**

Facility layout was provided by Teton Sales Company and processed by Environmental Consultants, Inc.

### **3.1.8 Building Downwash**

JRB Environmental Consultants, Inc. used worst case parameters to evaluate the downwash effects. It is anticipated that the results from this approach are conservative and the modeling conclusions are valid.

### **3.1.9 Receptor Network**

Screen model defaults were applied.

### 3.2 Emission Release Parameters and Emission Rates

Due to the complexity of the sources and building downwash, JBR applied the following approach. The sources (all are point sources) are divided into three categories: (1) Door coating spray, in Kit 518; (2) Combustion sources including all heaters in Kit 518, Kit 604 and Kit 612; (3) Coating sources, including fan coaters, printer and roll coaters, all in Kit 604. The worst case stack parameters were chosen from the each category for further modeling. It should be pointed out here that it is not always possible to determine the “worst case parameters” without actual modeling, fortunately it was possible in this specific case. All applicable building downwash was estimated, than the highest concentrations were used to estimate the impact.

Table 5 provides emissions release emission rates. The pollutants with emission rates below the EL were not modeled.

Table 5. EMISSION RATE (lb/hr)				
Pollutant	From Kit 518	From Kit 604	From Kit 612	Total Emission Rate
PM10	0.006	0.006	0.001	0.014
NO <sub>x</sub>	0.084	0.074	0.020	0.178
SO <sub>x</sub>	0.001	0.000	0.000	0.001
CO	0.07	0.062	0.016	0.15
Quartz	0.23	0	0	0.23
Toluene	0	31.90	0	31.90 <sup>a</sup>
Calcium Carbonate	29.72			29.72

a. Including 0.001 lb/hr from T-6 storage tank.

Table 6 summarizes the source categories, the parameters used and the modeling results.

Table 6. Source categories, emission parameters and modeled concentrations							
Source category	Worst-case Stacks	Applicable Buildings	Worst-case Parameters				Modeled Concentrations for each pound of pollutant per hour (ug/m3)/lb/hr)
			Flow rate (acfm)	Stack height (ft)	Temperature (°F)	Stack diameter (ft)	
Door Coating Spray	518 Kit (1)	518 Kit	25,000	30	70	2	10.2
Combustion	518 Kit (2,4,5,6,7,16,17,18) 604 Kit (12,13,14,15,21,19,20) 612 Kit (22,23)	518 Kit, 604 Kit, 612 Kit + Storage Wing, Storage 2, ministorage	50	20	175	0.667 <sup>a</sup>	2,153
Coating	604 Kit (8,9,10)	518 Kit, 604 Kit, 612 Kit+Storage Wing, Storage 2, Mini Storage	5,000	23 <sup>b</sup>	70	3	1,031

a. Stack diameter of 5.48 meters was used to give a stack exit velocity of 0.001m/s

b. Stack height 23 ft was used to take into account the proposed wall vent stack height increases.

### 3.3 Results

#### 3.3.1 Significant Impact Analysis

This section describes dispersion modeling results for the criteria pollutants and TAPs. Table 7 summarizes the results from JBR's analysis.

Pollutant	Averaging Period	Modeled Result <sup>a</sup> ( $\mu\text{g}/\text{m}^3$ ) <sup>b</sup>	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Total Concentration ( $\mu\text{g}/\text{m}^3$ )	NAAQS/IDAPA 58.01.01.586	Meets NAAQS/IDAPA 58.01.01.586
PM10	Annual	3.38	26	29.38	50	Yes
	24 hour	16.91	73	89.92	15	Yes
NO <sub>x</sub>	Annual	38.28	17	55.28	100	Yes
CO	1-hour	397.38	2,600	2,997	40,000	Yes
	8-hour	178.17	2,300	2,578	10,000	Yes
SO <sub>2</sub> <sup>c</sup>	Annual <sup>d</sup>	0.23	8	8.23	80	Yes
	24 hr <sup>e</sup>	1.14	26	27.14	365	Yes
	3 hr <sup>e</sup>	2.56	34	36.56	1300	Yes
Toluene	24-hour	13,157	NA	13,157	18,750	Yes
Calcium Carbonate	24-hour	121.16	NA	121.56	500	Yes
Quartz	24-hour	0.93	NA	0.93	5.0	Yes

<sup>a</sup> Values are modeling results obtained by JBR, converted from 1-hour Screen3 concentration ( $\mu\text{g}/\text{m}^3$ )/(lb/hr).

<sup>b</sup> Micrograms per cubic meter

### 4.0 CONCLUSIONS

Dispersion modeling of the proposed modification, conducted by the applicant, demonstrated to the satisfaction of DEQ that the proposed modification will not cause or significantly contribute to a violation of any ambient air quality standard.

## Modeling Input Parameters in the Application

### 7.3 MODEL INPUT

The Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Version 3 (SCREEN3), (dated 96043) model, was used for this analysis.

#### 7.3.1 EMISSION AND SOURCE DATA

Emission units at the facility and the modeled stack parameters are listed in Table 7.2-1.

**Table 7.3-1  
Emission Units and Stack Parameters (Modeled)**

Unit No.	Type	Ht. (m)	Temp (K)	Vel (m/s)	Diam (m)	Emissions in lb/hr			
						SO <sub>2</sub>	PM-10	NO <sub>x</sub>	CO
1	Door Coating Spray Booth	9.14	293	40.43	0.61	0.0	0.58	0.0	0.0
4	Oven Heater # 1 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
5	Oven Heater # 2 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
6	Oven Heater # 3 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
7	Oven Heater # 4 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
16	Space Heater # 1 - 100,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.01	0.008
17	Space Heater # 2 - 100,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.01	0.008
18	Space Heater # 3 - 100,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.01	0.008
8	Fan Coater # 1, Fan Coater # 4	7.01	293	3.59	0.91	0.0	0.0	0.0	0.0
9	Fan Coater # 2	7.01	293	3.59	0.91	0.0	0.0	0.0	0.0
10	Fan Coater # 3 <sup>2</sup> , Printer # 1 <sup>2</sup> , Printer # 2 <sup>2</sup> , Roll Coater # 1 <sup>2</sup>	7.01	293	3.59	0.91	0.0	0.0	0.0	0.0
13	Oven Heater # 5 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
14	Oven Heater # 6 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
15	Oven Heater # 7 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
21	Oven Heater # 8 - 140,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.014	0.012
19	Space Heater # 4 - 100,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.01	0.008
20	Space Heater # 5 - 100,000 Btu/hr	6.09	352.6	0.001	5.48	0.0001	0.001	0.01	0.008

Teton Sales Company  
Facility-Wide Tier II Permit Application  
Page 7-9